2 COMBINED MONITORING REPORT

In accordance with Title V Permit Standard Condition 1.F, BAAQMD Rule 8-34-411 and §60.757(f) in the NSPS, this report is a Combined Semiannual Title V Report and Partial 8-34 Annual Report that is required to be submitted by Sonoma Central. The report contains monitoring data for the operation of the landfill gas collection and control system (GCCS). The operational records have been reviewed and summarized. The timeframe included in this report is February 1, 2015 through July 31, 2015. The following table lists the rules and regulations that are required to be included in this Combined Report.

TABLE 2-1 – COMBINED REPORT REQUIREMENTS

Rule	Requirement	Location in Report
8-34-501.1 & §60.757(f)(4)	All collection system downtime, including individual well shutdown times and the reason for the shutdown.	Section 2.1, Appendices C & D
8-34-501.2 & §60.757(f)(3)	All emission control system downtime and the reason for the shutdown.	Section 2.2, Appendix E & F
8-34-501.3, 8-34-507, & §60.757(f)(1)	Continuous temperature for all operating flares and any enclosed combustor subject to Section 8-34-507.	Section 2.3, Appendix G
8-34-501.4, 8-34-505, & 8-34-510	Testing performed to satisfy any of the requirements of this rule.	Sections 2.6 & 2.12
8-34-501.5	Monthly landfill gas flow (LFG) rates and well concentration readings for facilities subject to 8-34-404.	Section 2.5, 2.13 Appendix N
8-34-501.6, 8-34-503, 8-34-506, §60.757(f)(5)	For operations subject to Section 8-34-503 and 8-34-506, records of all monitoring dates, leaks in excess of the limits in Section 8-34-301.2 or 8-34-303 that are discovered by the operator, including the location of the leak, leak concentration in parts per million by volume (ppmv), date of discovery, the action taken to repair the leak, date of the repair, date of any required re-monitoring, and the re-monitored concentration in ppmv.	Section 2.6 & 2.7, Appendix I & J
8-34-501.7	Annual waste acceptance rate and current amount of waste in-place.	Section 2.10 & Appendix L
8-34-501.8	Records of the nature, location, amount, and date of deposition of non-degradable wastes, for any landfill areas excluded from the collection system requirement as documented in the GCCS Design Plan.	Section 2.11
8-34-501.9, 8-34-505, §60.757(f)(1)	For operations subject to Section 8-34-505, records of all monitoring dates and any excesses of the limits stated in Section 8-34-305 that are discovered by the operator, including well identification number, the measured excess, the action taken to repair the excess, and the date of repair.	Section 2.12, Appendices M & N
8-34-501.10, 8-34-508, §60.757(f)(1)	Continuous gas flow rate records for any site subject to Section 8-34-508.	Section 2.13, Appendix O

Rule	Requirement	Location in Report
8-34-501.11, 8-34-509	For operations subject to Section 8-34-509, records or key emission control system operating parameters.	Section 2.2.2
8-34-501.12	The records required above shall be made available and retained for a period of 5 years.	Section 1.2
§60.757(f)(2)	Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.	Section 2.2.1
§60.757(f)(6)	The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), (c)(4) of §60.755.	Section 2.1.2, Appendices A & C
§60.10 (d)(5)(i)	Startup, Shutdown, Malfunction Events	Section 4.0, Appendices C, D, E & F

2.1 Collection System Operation (BAAQMD 8-34-501.1 & §60.757(f)(4))

Appendix A contains a current map of Sonoma Central's existing GCCS. Section 2.1.1 includes the GCCS downtime for the reporting period. The information contained in Section 2.1.2 includes wellfield shutdown, start-up and malfunction (SSM) event information.

2.1.1 Collection System Downtime

During the period covered in this report, the GCCS was not shut down for more than five (5) days on any one (1) occasion. The downtime for the reporting period of February 1, 2015 through July 31, 2015 was 0.75 hours. The total downtime for the 2015 calendar year as of July 31, 2016 is 0.75 hours, out of an allowable 240 hours per year.

Appendix C contains the GCCS Downtime, Appendix E contains the A-4 Flare SSM Log for the reporting period, and Appendix F contains the Engine SSM Log for the reporting period.

2.1.2 Well Start-Up & Disconnection Log

There were 23 wellfield SSM events during the reporting period. There were 16 well start-ups and one (1) well decommissioning during the reporting period. Refer to Appendix D, Wellfield SSM Log, for further details. A Well Start-up Notification was submitted to the BAAQMD on August 20, 2015 regarding the start-ups and decommissioning in July and August 2015, and will be included in the August 1, 2015 through January 31, 2016 SAR.

2.2 Emission Control Device Downtime (BAAQMD 8-34-501.2 & §60.757(f)(3))

The emission control system consists of one (1) Landfill Gas-to-Energy (LFGTE) facility of 10 internal combustion (IC) engines (S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13 and S-14) and one (1) enclosed backup flare (A-3). Raw landfill gas (LFG) was not emitted during the reporting period. The SSM logs for the A-3 Flare and the IC Engines are located in Appendices E and F, respectively. As indicated in Section 2.1.1, the total GCCS downtime for the reporting period of February 1, 2015 through July 31, 2015 was 0.75 hours. The GCCS Downtime Log for the reporting period is included in Appendix C.

Landfill operations were temporarily suspended for five (5) years and were resumed in September 2010. The current gas generation projections indicate a reduction in the LFG generation rate of about 125 standard cubic feet per minute (scfm) per year during that period. This is evident by the decline of LFG flow to the emission control devices. The rate of the decline in LFG flow has lessened since landfilling resumed; however, declining flows are projected to continue for several more years at current landfilling rates. Engine Nos. 9 and 10 (S-13 and S-14) were put in long-term storage pursuant to BAAQMD Application No. 22513. Additionally, one (1) or more engines may be placed in standby mode and alternated into service based on maintenance cycles and GCCS demands.

The information contained in Appendix E includes the A-3 backup flare downtimes and the reason for each shutdown. Appendix F contains all engine downtimes and the reasons for the shutdowns for the IC engines.

TABLE 2-2 -CONTROL DEVICE DOWNTIME

Source	Total Downtime (Hours)
A-3 Flare	4,343.00
IC Engine 1 (S-4)	52.77
IC Engine 2 (S-5)	28.33
IC Engine 3 (S-6)	20.67
IC Engine 4 (S-7)	278.17
IC Engine 5 (S-9)	1,540.92
IC Engine 6 (S-10)	4,318.03

Source	Total Downtime (Hours)
IC Engine 7 (S-11)	174.73
IC Engine 8 (S-12)	386.92

Note: IC Engines S-13 and S-14 were in standby mode for the reporting period and did not operate.

2.2.1 LFG Bypass Operations (§60.757(f)(2))

Title 40 CFR §60.757(f)(2) is not applicable at Sonoma Central because a by-pass line has not been installed. LFG cannot be diverted from the control equipment.

2.2.2 Key Emission Control Operating Parameters (BAAQMD 8-34-501.11 & 8-34-509)

The IC engines (S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13 and S-14) are subject to key emission control system operating parameters. Pursuant to Permit to Operate (PTO) condition 19933 Part 11, Sonoma Central must operate each IC Engine at the fuel-to-air ratio established during the most recent complying source test. In addition, the exhaust oxygen concentration for each engine must be maintained with a range of 6.4 to 8.3 percent as established in Permit Application No. 9277. In order to demonstrate compliance with this requirement, the exhaust gas oxygen concentration for each engine is to be measured and recorded in a District approved log on at least a monthly basis. IC Engines S-13 and S-14 were in standby mode for the reporting period and did not operate.

Exhaust oxygen concentrations for all IC engines were in compliance with PTO Condition No. 19933 Part 11. The Monthly Exhaust Oxygen Content Log is included in Appendix R.

2.3 Backup Flare Temperature Monitoring Results

The A-3 flare combustion zone temperature while the flare is in operation must not drop below 1,400 degrees Fahrenheit (°F) or 50°F below the average combustion temperature during the most recent source test. Compliance with temperature limitations is determined on the basis of the 3-hour rolling average temperature.

The combustion zone temperature of the A-3 backup flare is continuously monitored during operation. The temperature is recorded by a Yokogawa data system. Summaries of the backup flare temperature records review are noted in the Monthly Backup Flare Temperature Deviation Logs in Appendix G. The electronic files of backup flare temperature records are typically saved on a compact disc (CD) included in Appendix Q of this report. However, for this reporting period, the A-3 backup flare did not operate

The A-3 backup flare temperature was maintained within compliance during the entire reporting period.

2.4 Monthly Cover Integrity Monitoring

The Cover Integrity Monitoring was performed on a monthly basis during the reporting period. The Monthly Cover Integrity Monitoring reports are included in Appendix H. Litter being remediated by litter pickers was noted in February, March, May and July 2015. The cover integrity monitoring was performed on the following dates:

- February 9, 2015;
- March 9, 2015;
- April 30, 2015;
- May 26, 2015;
- June 27, 2015; and
- July 29, 2015.

2.5 Less Than Continuous Operation (BAAQMD 8-34-501.5)

Sonoma Central does not operate under BAAQMD Regulation 8-34-404 (Less Than Continuous Operation) and, therefore, is not required to submit monthly LFG flow rates.

2.6 Surface Emissions Monitoring ((BAAQMD 8-34-501.6, 8-34-506, §60.757(f)(5) & California Air Resources Board Assembly Bill 32 Methane Control Measure (CARB AB-32 LF MCM))

Quarterly Surface Emissions Monitoring (SEM) was conducted for First and Second Quarter 2015 on the following dates:

- First Quarter 2015 – March 3, 4, and 5, 2015; and
- Second Quarter 2015 – April 1, 2, and 14, 2015.

Refer to the First and Second Quarter 2015 SEM Reports, located in Appendix I, for detailed results.

2.7 Component Leak Testing (BAAQMD 8-34-501.6 & 8-34-503)

Quarterly component leak testing, pursuant to BAAQMD Regulation 8-34-503, was conducted during the reporting period on the following dates:

- First Quarter 2015 – March 3, 2015; and
- Second Quarter 2015 – June 29, 2015.

No leaks were detected during the First Quarter or Second Quarter 2015 monitoring. Refer to the First Quarter SEM Report in Appendix I for First Quarter Component Leak Testing Results and refer to Appendix J, Quarterly LFG Component Leak Monitoring Forms, for detailed results for Second Quarter 2015 completed by American Environmental Group (AEG West).

2.8 Sulfur Monitoring Records

The concentration of total reduced sulfur compounds in the LFG must not exceed 1,300 ppmv pursuant to Permit Condition 4044 Part 7. Total sulfur content in LFG was analyzed during the annual gas characterization tests, pursuant to Condition 4044 Part 18. The concentration of total reduced sulfur compounds in the LFG did not exceed 1,300 ppmv during either reporting period.

TABLE 2-3 –H2S MONITORING RESULTS

Quarter	Date	Readings (ppmv)	Calculated TRS (ppmv)
Second Quarter 2015	June 25, 2015	60	72

2.9 Dust Suppression Records

Water was used as a dust suppressant pursuant to Permit Condition 4044 Part 19n. Records are available upon request.

2.10 Waste Acceptance Records (BAAQMD 8-34-501.7)

During the reporting period Sonoma Central did not exceed the waste acceptance limits for total acceptance of 19.59 million tons, daily waste acceptance 2,500 tons per day (tpd), and annual waste acceptance shall not exceed 897,500 tons per year (tpy), in accordance with Condition 4044 Part 1. The total waste accepted during the reporting period was 120,906 tons, as of July 31, 2015 total waste in place is 14,276,444 tons. Daily and monthly waste tonnage acceptance records are provided in Appendix L. Table 2-4 summarizes the monthly waste acceptance rate during the report period.

TABLE 2-4 -WASTE ACCEPTANCE RECORDS

Month	Quantity (tons)
February 2015	16,348
March 2015	17,700
April 2015	18,556
May 2015	20,987
June 2015	23,068
July 2015	24,247

2.10.1 Low-VOC Content Soil Acceptance Records

No VOC contaminated (greater than 50 ppmw) soil was accepted during the reporting period.

2.11 Non-degradable Waste Acceptance Records (BAAQMD 8-34-501.8)

The GCCS Design Plan for Sonoma Central does not indicate non-degradable waste areas that are excluded from the collection system. Therefore, BAAQMD Regulation 8-34-501.8 is not applicable.

2.12 Wellhead Monitoring Data (BAAQMD 8-34-501.4 & 8-34-505)

Wellhead monitoring was performed on a monthly basis. The Monthly Well Monitoring Records for the reporting period are provided in Appendix M. Each well was monitored for the following:

- Each wellhead shall operate under a vacuum; and
- The LFG temperature in each wellhead shall be less than 55°C (131°F); and
- The oxygen concentration in each wellhead shall be less than five (5) percent by volume.

Wellhead monitoring was performed on the following dates:

- February 5, 9, 10, 11, 12, 18 and 23, 2015;
- March 16, 17, 18, 19, 20, 30 and 31, 2015;
- April 2, 7, 8, 14, 15, 22, 28, and 29, 2015;
- May 4, 12, 14, 18, 20 and 26, 2015;
- June 2, 11, 25 and 27, 2015; and,

- July 8, 15, 22, 24, 27 and 28, 2015.

2.12.1 Wellhead Exceedances (BAAQMD 8-34-501.9 & §60.757(f)(1))

There were 49 wells with readings that exceeded the limits set forth in BAAQMD Regulation 8-34-305 during the reporting period. Corrective action for wells was initiated within the required five (5) day time period and re-monitoring was completed within 15 days of the deviation pursuant to BAAQMD Regulation 8-34-414. See Appendix N, Wellfield Deviation Log, for further details.

2.12.1.1 Higher Operating Values (HOV) Wells

The Sonoma Central requested exemption from BAAQMD Rule 8-34 wellhead standards and alternate wellhead monitoring limits for 11 extraction wells. BAAQMD approved the alternate wellhead monitoring limits for these extraction wells in Authority to Construct (ATC) No. 16582. Permit Condition 4044 Part 5b was added to the PTO allowing up to 15 percent oxygen in gas extraction wells V-58, V-61, V-62, V-117, EC-9.1, EC-15, EC-19, EC-24, EC-25, EC-26, and EC-26.1. However, wells EC-9.1, EC-25, EC-26, and EC-26.1 failed and were decommissioned in December 2009, pursuant to ATC Application No. 16497.

2.13 Gas Flow Monitoring Results (BAAQMD 8-34-501.10, 8-34-508, & §60.757(f)(1)

The A-3 Backup Flare LFG flow rate is measured and recorded when the flare is in operation. The flare flow meter meets the requirements of BAAQMD Regulation 8-34-508 by recording data at least every 15 minutes. The flow meter is maintained and calibrated pursuant to manufacturer's recommendations. The flow meter sends a signal to a Yokogawa digital recorder. The A-3 Backup Flare did not operate for the duration of the reporting period, therefore no data was recorded for February 1, 2015 through July 31, 2015.

The IC Engine LFG flow is recorded a Digital Chart Recorder. The Yokogawa data recorder records LFG flow every 120 seconds and data is downloaded and saved to a compact flash card. The flare flow meter meets the requirements of BAAQMD Regulation 8-34-508 by recording data at least every 15 minutes. The flow meter is maintained and calibrated pursuant to manufacturer's recommendations.

The summary of the monthly LFG flow rates for the IC Engines and A-3 Backup Flare are included in Appendix O. No deviations of the flare flow were identified during the monitoring period. The Phase I IC Engines (S-4, S-5, S-6 and S-7) flow data was static at 516 standard cubic feet per minute (scfm) starting December 16, 2014 at approximately at 8:12 AM through June 26, 2015. Notification was submitted to the BAAQMD. Table 2-2 below is a summary of the total LFG flow for the reporting period of February 1, 2015 through July 31, 2015.

TABLE 2-5 -CONTROL DEVICE TOTAL FLOW

Month	A-3 Backup Flare (total scf)	Phase I (S-4, S-5, S-6 and S-7) (total scf)	Phase II (S-9, S-10, S-11 and S-12) (total scf)	Phase III (S-13 and S-14) (total scf)	All (total scf)
February 2015	0.0	20,801,362.0	20,818,679.0	0.0	41,620,041.0
March 2015	0.0	23,007,345.0	28,380,538.0	0.0	51,387,883.0
April 2015	0.0	22,291,200.0	22,684,848.0	0.0	44,976,048.0
May 2015	0.0	23,034,240.0	24,327,976.0	0.0	47,362,216.0
June 2015	0.0	26,312,986.0	21,591,287.0	0.0	47,904,273.0
July 2015	0.0	42,979,630.0	23,662,499.0	0.0	66,642,129.0

During the reporting period, the A-3 Backup Flare remained in compliance and did not exceed the annual heat input limit set by permit conditions. In accordance with Permit Condition 4044, Part 13, the heat input to the A-3 Backup Flare did not exceed 547,680 million BTU per year (MMBtu/yr) and is summarized monthly.

During the reporting period none of the IC engines exceeded the daily or annual heat input limits. Pursuant to Permit Condition 19933 Part 10, the heat input to each IC engine shall not exceed 252.6 MMBtu/day, or 92,199 MMBtu/year, and is summarized monthly. Phase I, Phase II, and Phase III LFG daily flow records are divided by the number of engines that operated to calculate heat input per engine per day (MMBtu/unit).

TABLE 2-6 - CONTROL DEVICE TOTAL HEAT INPUT

Month	A-3 Backup Flare (MMBTU)	Phase I (S-4, S-5, S-6 and S-7) (MMBTU per unit)	Phase II (S-9, S-10, S-11 and S-12) (MMBTU per unit)	Phase III (S-13 and S-14) (MMBTU per unit)	All (MMBTU per unit)
February 2015	0.0	11,620.1	11,629.8	0.0	23,250.0
March 2015	0.0	12,363.5	15,250.9	0.0	27,641.4
April 2015	0.0	11,538.9	11,742.7	0.0	23,281.5
May 2015	0.0	11,853.5	12,519.3	0.0	24,372.8
June 2015	0.0	13,380.8	10,979.7	0.0	24,360.6
July 2015	0.0	22,117.5	12,176.8	0.0	34,294.3

2.14 Compliance with §60.757(f)(6)

"The date of installation and the location of each well or collection system expansion added pursuant to (a)(3), (b), (c)(4) of §60.755."

There were 16 wells started-up and one (1) well decommissioned during the reporting period, start-up dates and times are included in Appendix D. Well locations are shown on the site map provided as Appendix A. Well Decommissioning and Start-up Notifications Letters were submitted to the BAAQMD for start-ups and decommissionings, notification letters are included in Appendix B.

2.15 Notices of Violation Issued by the BAAQMD

There were seven (7) Notices of Violation (NOV) issued during the reporting period by the BAAQMD for late submittal of First Quarter 2015 SEM Report, failed source tests at Engine 7 (S-11) and Engine 8 (S-12), component and surface emission leaks. Correspondence including the 10 day notifications and 30-day corrective actions letters are included in Appendix B.

2.16 Volume of Landfill Gas Converted in S-15

The LFG compression plant (S-15) is a pilot scale unit designed to operate as a closed loop system with all waste gases vented to either the flare or IC engines pursuant to Permit

Condition 23087. The unit was completed in February 2009. Compressed natural gas (CNG) produced at the Central Disposal Site has historically been used to fuel select vehicles in the Sonoma Central Transit bus fleet. In October of 2013 the plant experienced a critical mechanical failure. As a result, the plant has not been used during the reporting period and, therefore, no CNG was produced at the plant and there was no throughput.

4 START-UP, SHUTDOWN, MALFUNCTION REPORT

4.1 SSM Log for the GCCS at Sonoma Central

The NESHAP contained in 40 CFR Part 63, AAAA for MSW landfills to control hazardous air pollutants include the regulatory requirements for submittal of a semiannual report (under 40 CFR §63.10(d)(5) of the general provisions) if an SSM event occurred during the reporting period. The reports required by §63.1980(a) of the NESHAP and §60.757(f) of the NSPS summarize the GCCS exceedances. These two (2) semiannual reports contain similar information and have been combined as allowed by §63.10(d)(5)(i) of the General Provisions.

NESHAP 40 CFR part 63, AAAA became effective on January 16, 2004. Those SSM events that occurred during the NSPS semiannual reporting period are reported in this section (February 1, 2015 through July 31, 2015). The following information is included as required:

- During the reporting period, no A-3 Backup Flare SSM events occurred. The A-3 Backup Flare was shut down during the reporting period due to the reasons noted in Appendix E, Flare SSM Log.
- During the reporting period, 132 SSM events occurred at the eight (8) IC Engines (S-4, S-5, S-6, S-7, S-9, S-10, S-11 and S-12). IC Engines S-13 and S-14 did not operate for the duration of the reporting period. The eight (8) IC Engines (S-4, S-5, S-6, S-7, S-9, S-10, S-11 and S-12) were shut down and restarted during the reporting period due to the reasons noted in Appendix F, Flare SSM Log.
- During the reporting period, 26 Wellfield SSM events occurred. Details are included in Appendix D, Well SSM Log.
- There were 158 events in total. In all 158 events, automatic systems and operator actions were consistent with the standard operating procedures contained in the SSM Plan. There were no deviations from the SSM plan.
- Exceedances were not identified during the reporting period in any applicable emission limitation in the landfills NESHAP (§63.10(d)(5)(i)).
- Revisions of the SSM Plan to correct deficiencies in the landfill operations or procedures were neither required, nor prepared (§63.6(e)(3)(viii)).